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(71) Applicant (for all designated States except US): **KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY** [KR/KR]; Guseong-dong 373-1, Yuseong-gu, Daejeon 305-701 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **YOON, Jun-Bo** [KR/KR]; Electronic & Computer Science Department, Korea Advanced Institute of Science and Technology, Guseong-dong 373-1, Yuseong-gu, Daejeon 305-701 (KR). **CHANG, Sung-II** [KR/KR]; Electronic & Computer Science Department, Korea Advanced Institute of Science and Technology, Guseong-dong 373-1, Yuseong-gu,

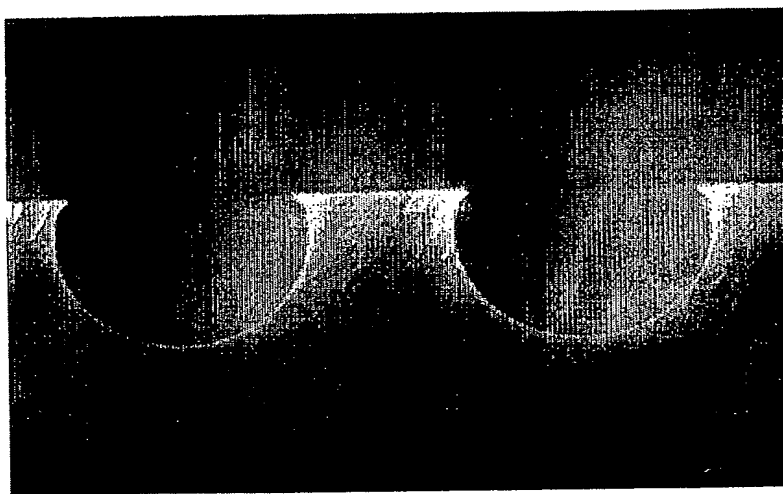
Daejeon 305-701 (KR). **KIM, Dae-Hyun** [KR/KR]; Electronic & Computer Science Department, Korea Advanced Institute of Science and Technology, Guseong-dong 373-1, Yuseong-gu, Daejeon 305-701 (KR). **LEE, Hyung-Suk** [KR/KR]; Electronic & Computer Science Department, Korea Advanced Institute of Science and Technology, Guseong-dong 373-1, Yuseong-gu, Daejeon 305-701 (KR). **CHOI, Joo-Nyong** [KR/KR]; Electronic & Computer Science Department, Korea Advanced Institute of Science and Technology, Guseong-dong 373-1, Yuseong-gu, Daejeon 305-701 (KR). **JANG, Weon-Wi** [KR/KR]; Electronic & Computer Science Department, Korea Advanced Institute of Science and Technology, Guseong-dong 373-1, Yuseong-gu, Daejeon 305-701 (KR). **LEE, Kyungho** [KR/KR]; Electronic & Computer Science Department, Korea Advanced Institute of Science and Technology, Guseong-dong 373-1, Yuseong-gu, Daejeon 305-701 (KR).

(74) Agents: **PARK, Kyungwan** et al.; GIP Patent Law Counselors, Baeklim Bldg. #102, Yeoksam-dong 823-33, Gangnam-gu, Seoul 135-933 (KR).

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[Continued on next page]

(54) Title: **POLYMER PATTERN AND METAL FILM PATTERN, METAL PATTERN, PLASTIC MOLD USING THEREOF, AND METHOD OF THE FORMING THE SAME**



(57) Abstract: The present invention relates to polymer patterns of various shapes formed using modifications of means and methods used in the prior lithography process, and the metal film patterns, metal patterns and plastic molds using the polymer patterns, as well as methods of forming these patterns and molds. The method of forming the polymer patterns comprises the steps of: (a) depositing a photosensitive polymer on the substrate to form a polymer film; (b) placing a photomask on the polymer film; and (c) irradiating the polymer film with a light moving in random direction through the photomask, so as to form at least one pattern which is concave from the surface

of the polymer film in a direction perpendicular to the substrate and extends in a direction parallel to the substrate. The inventive polymer patterns have at least one pattern which is concave from the surface of the polymer film in a direction perpendicular to the substrate and extends in a direction parallel to the substrate. The vertical cross-section of the concave patterns has at least one curved surface.

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